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THE GAMBEL PARTRIDGE IN CALIFORNIA

By M. FRENCH GILMAN

In response to a query in a recent *CONDOR* concerning the western limit of the range of *Lophortyx gambeli*, I will give some of my observations.

Beginning at Fig Tree John's place, 197 feet below the sea level, as the most easterly point of my quail hunting I found the birds very numerous all over the western part of Salton sink. At Mecca, Thermal, Coachella and Indio, settlements in the Coachella Valley all below sea level, the birds are very common and do considerable damage in the vineyards. Along the southwest part of the valley next the Martinez Mountains are the Indian villages of Agua Dulce, Alamos, Martinez and Toros, where the birds seem more numerous, if anything, and much tamer, as the Indians hunt them very rarely. The dense mesquite and screw-bean thickets provide a safe retreat and with the Crissal Thrasher and Abert Towhee they form a happy, if hot, family.

At Indian Wells, near the rim of the ancient sea, I saw a few flocks of this quail. Here they must go some distance for water as the well is the only known supply for several miles. But the birds may have their own source of liquid refreshment as I saw other species there; such as Leconte Thrashers, Abert Towhees, Phainopeplas, Saint Lucas Woodpeckers and Plumbeous Gnatcatchers.

At Palm Springs, altitude about 500 feet, *gambeli* is thoroughly at home in the screw-bean and paloverde thickets. They are much hunted here and develop a faculty of escaping, that disgusts and baffles the hunter. A big flock is seen and pursued. They divide and Nimrod follows the larger portion which again divides and this process of elimination by division continues till the hunter finds he has been up against a vanishing fraction. If near a range the flock immediately takes to the hills and anyone who has once followed them up those sun-burned rocks is ever afterward in the sour grapes class.

From the old sea level westward, the desert gradually narrows and the altitude increases till San Gorgonio Pass is reached, altitude 2500 feet. W. G. Wright of San Bernardino has termed this northwest arm of the Colorado Desert a cornucopia, and from a naturalist's standpoint the name is well deserved. A former San Bernardino journalist, Kearny by name, once dubbed it a continental funnel, from the atmospheric activity sometimes displayed there. At suitable points along this narrowing arm of the desert are found small colonies of the Desert Quail as it is commonly called. At Whitewater they breed regularly and are found occasionally, or even regularly in small numbers, to within three miles of Banning, or six miles east of the San Bernardino meridian. Banning seems the extreme western limit of their range; at least I have no knowledge of any seen west of that point. Here the characteristic desert plants such as *Yucca baccata*, *Dalea californica* and *Dalea schottii*, *Larrea mexicana*, and various cacti, give way to a more civilized flora.

To the north of the Coachella Valley is the Morongo range of mountains, the desert continuation of the San Bernardino range and separating the below-sea-level desert from a higher district which merges into the Mojave desert to the north. In this range the desert quail are found and all along the north desert slopes of the San Bernardino range as well, to nearly, if not quite, the San Bernardino meridian. At such points as Mission Creek, Morongo, Warren's Well, the "Pipes," Rattlesnake Canyon, Burn's Canyon, and Old Woman Springs the Gambel Partridge is at home. At points across the range north of Salton in the mining districts at

Twenty-nine Palms and Virginia Dale, as well as others toward Palo Verde and the Colorado River, is found this quail.

They range upward to at least 4000 feet and at favorable points are found in proximity to the Plumed Partridge (*Oreortyx pictus plumiferus*). At other places the Valley Partridge (*Lophortyx californicus vallicola*) joins in and the three species occupy the same territory. At Snow Creek at the north base of San Jacinto Peak I have shot the three species and carried them home in the same bag. Near Banning mixed flocks of *gambeli* and *vallicola* have been seen and the Plumed, or Mountain Quail as it is more commonly called, only a short distance away. In canyons at Palm Springs the three can be found, and on Pinyon Flats, altitude of 4,000 feet, lying about fifteen miles south of Palm Springs, I have seen the three species drink from the same spring in course of half an hour.

I have heard of hybrids between *gambeli* and *vallicola* being shot near Whitewater but know nothing positive about it. I have shot Valley Quail at Whitewater and at Palm Springs very light in color and with top of head approaching the red of *gambeli* but with none of the distinctive breast markings. Desert surroundings might account for the variation from type. Or perhaps a cross between the two would not be a true hybrid and by mating with the California side of its parentage most of the *gambeli* markings would be lost. I should like expert opinions as to the possibility of a cross between *L. gambeli* and *L. vallicola* proving fertile instead of hybrid. The structural differences seem slight or *nil*, and coloration so much a matter of environment. The same question has been discussed in THE CONDOR concerning hybrid Flickers and no conclusion arrived at. But it seems to me that experiments with the partridges could be easily made and something definite learned. I have had Valley Partridges lay eggs in captivity; and with big enough enclosures, experiments with the two species should yield results.

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NESTING OF THE BI-COLORED BLACKBIRD

By H. F. DUPREY

EVERY collector living near a tule marsh is well acquainted with one of our most common birds, *Agelaius gubernator californicus*. Seven miles west of Santa Rosa, California, lies the Lagoon, grown with tules, weeds, water lilies, willows, etc., a tangled mass of swamp. For several years past I have paid this swamp a visit to gather tribute in the way of the eggs of the Bi-color. While Davie in his "Nests and Eggs" says that the nesting habits of Bi-color "are exactly the same as the eastern Redwing" (*Agelaius phoeniceus*) the nests being placed in water-cress or rushes along running streams, ditches and swamps, in this lagoon I speak of I have in most cases found the nest fastened to three or four stalks of tule 18 to 24 inches above the surface of the water. Then again I have found the nests fastened to young willows growing along the banks of the lagoon. In Solano County I have found a great many nests attached to wild mustard growing in the grain fields several miles from any body of water. This wild mustard grows in patches in the fields, and in a space of 40 or 50 feet square grown up with mustard it is quite common to find seven or eight pairs nesting. It is also common to find nests in low swales in the fields that carry water in the winter and spring and